STUDY PROJECT

LESSONS LEARNED BY ARMY NURSES IN COMBAT A HISTORICAL REVIEW

BY

COLONEL SUSAN C. McCALL
United States Army

USAWC CLASS OF 1993

U.S. ARMY WAR COLLEGE, CARLISLE BARRACKS, PA 17013-5050

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE

REPORT DOCUMENTATION PAGE

Form Approved
OMB No 0704-0188

1a. REPORT SECURITY CLASSIFICATION UNCLASSIFIED	1b. RESTRICTIVE MARKINGS
2a. SECURITY CLASSIFICATION AUTHORITY	3. DISTRIBUTION/AVAILABILITY OF REPORT Approved for public release; distribution is unlimited.
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE	
4. PERFORMING ORGANIZATION REPORT NUMBER(S)	5. MONITORING ORGANIZATION REPORT NUMBER(S)
6a. NAME OF PERFORMING ORGANIZATION U.S. ARMY WAR COLLEGE 6b. OFFICE SYMBOL (If applicable)	7a. NAME OF MONITORING ORGANIZATION
6c. ADDRESS (City, State, and ZIP Code) ROOT HALL, BUILDING 122 CARLISLE, PA 17013-5050	7b. ADDRESS (City, State, and ZIP Code)
8a. NAME OF FUNDING/SPONSORING ORGANIZATION 8b. OFFICE SYMBOL (If applicable)	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER
8c. ADDRESS (City, State, and ZIP Code)	10. SOURCE OF FUNDING NUMBERS PROGRAM ELEMENT NO. / PROJECT NO. / TASK NO. / WORK UNIT ACCESSION NO.

11. TITLE (Include Security Classification)

LESSONS LEARNED BY ARMY NURSES IN COMBAT: A HISTORICAL REVIEW (U)

12. PERSONAL AUTHOR(S)
COL SUSAN C. MCCALL

13a. TYPE OF REPORT	13b. TIME COVERED	14. DATE OF REPORT (Year, Month, Day)	15. PAGE COUNT
STUDY PROJECT	FROM _____ TO _____	93/04/15	32

16. SUPPLEMENTARY NOTATION

17. COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)
FIELD	GROUP	SUB-GROUP	

19. ABSTRACT (Continue on reverse if necessary and identify by block number)

20. DISTRIBUTION/AVAILABILITY OF ABSTRACT ☒ UNCLASSIFIED/UNLIMITED ☐ SAME AS RPT. ☐ DTIC USERS	21. ABSTRACT SECURITY CLASSIFICATION UNCLASSIFIED
22a. NAME OF RESPONSIBLE INDIVIDUAL COL LORNA R. HOUSE, PROJECT ADVISER	22b. TELEPHONE (Include Area Code) (717) 245-3477 / 22c. OFFICE SYMBOL AWCAA

DD Form 1473, JUN 86 *Previous editions are obsolete*

SECURITY CLASSIFICATION OF THIS PAGE
UNCLASSIFIED

ABSTRACT

AUTHOR: Susan C. McCall, COL, USA

TITLE: Lessons Learned By Army Nurses In Combat: A Historical Review

FORMAT: Individual Study Project

DATE: 15 April 1993 PAGES: 44
CLASSIFICATION: Unclassified

The oft stated axiom that those who fail to heed the lessons of history are doomed to repeat its follies suggests the requirement for a formal lesson learning process. If there is a failure to effectively learn from experiences, the mistakes can be costly. Throughout the history of our nation, during war there has been a dependence on nurses to provide care to both soldiers and civilians. War placed heavy demands on nurses and brought with it a sharpened awareness of the urgent need to prepare them to meet the overall crisis at home and abroad. With each conflict experience has been gained in the art and science of military nursing. This study provides a historical review of observations and experiences of nurses during combat. A trend-line analysis covering conflicts from World War II through Operation Desert Storm is based on four categories: training, conditions, innovations, and redeployment. It is an attempt to bring to light the repetitive experiences that through the use of the lesson learning process can become institutionalized and therefore, need not be relearned with each conflict. It is incumbent on the Army Nurse Corps to master the intricacies of learning from history by integrating the resulting lessons into future policy and training efforts.

USAWC MILITARY STUDIES PROGRAM PAPER

LESSONS LEARNED BY ARMY NURSES IN COMBAT
A HISTORICAL REVIEW

AN INDIVIDUAL STUDY PROJECT

by

Colonel Susan C. McCall
United States Army

Colonel Lorna House
Project Advisor

U.S. Army War College
Carlisle Barracks, Pennsylvania 17013

ABSTRACT

AUTHOR: Susan C. McCall, COL, USA

TITLE: Lessons Learned By Army Nurses In Combat: A Historical Review

FORMAT: Individual Study Project

DATE: 15 April 1993 PAGES: 44
CLASSIFICATION: Unclassified

The oft stated axiom that those who fail to heed the lessons of history are doomed to repeat its follies suggests the requirement for a formal lesson learning process. If there is a failure to effectively learn from experiences, the mistakes can be costly. Throughout the history of our nation, during war there has been a dependence on nurses to provide care to both soldiers and civilians. War placed heavy demands on nurses and brought with it a sharpened awareness of the urgent need to prepare them to meet the overall crisis at home and abroad. With each conflict experience has been gained in the art and science of military nursing. This study provides a historical review of observations and experiences of nurses during combat. A trend-line analysis covering conflicts from World War II through Operation Desert Storm is based on four categories: training, conditions, innovations, and redeployment. It is an attempt to bring to light the repetitive experiences that through the use of the lesson learning process can become institutionalized and therefore, need not be relearned with each conflict. It is incumbent on the Army Nurse Corps to master the intricacies of learning from history by integrating the resulting lessons into future policy and training efforts.

INTRODUCTION

Nursing care of the American soldier traces its roots back to the time of our country's independence. Since 1775, American nurses have served the Army proudly during war and peace. Wherever duty called the fighting man, it also called the Army nurse.

Following every major training exercise, every deployment for humanitarian assistance or combat experience, After Action Reports were submitted, some in the format of "Lessons Learned". The intent of such submissions was to profit from these experiences and transform useable experiences into improved performance.

It is axiomatic that those who fail to heed the lessons of history are doomed to repeat its follies. The United States Army, including the Army Medical Department, has long sought to utilize experience by finding lessons in it and applying them to current operations. Throughout recorded civilization lessons have been available from those who fought in previous wars. Once removed from its unique time and place, however, a lesson derived from a particular experience may not always be clear, and may in fact no longer apply. Perhaps these historical "lessons" are merely insights on a specific situation of the past.[1]

The purpose of this paper is to provide a historical review of nurses' experiences in combat and to determine whether they do in fact provide lessons which can help nurses in future combat,

or are simply observations which are relegated to history with little or no impact on future operations. Because decisionmaking and conflict resolution during training exercises and humanitarian assistance deployments are often impacted by artificial variables, this paper will address only the "lessons" of combat.

The paper will look first at the process of Military Lesson Learning. While nearly everyone acknowledges the general value, few fully appreciate the concept and process involved. Military overuse and misuse have resulted in a variety of meanings. While for some the term means simply observations, and others apply it broadly to any innovative and potentially performance-improving idea, it is this writer's intention to consider as lessons only those observations which have been analyzed and incorpcrated into doctrine.[2] Next, a historical overview of common observations of nurses in the combat environment will be discussed, starting with World War II and proceeding through the most recent conflict, Desert Storm. After examination of available data, it was determined that observations during all conflicts could be placed into four categories: training or preparation, living and working conditions, innovations or improvisation, and redeployment or "going home". Finally, the paper will examine the validity of these observations in terms of whether they are indeed lessons that should be learned. If so, is there some doctrinal, organizational or training methodology change that has

occurred or needs to occur to break the cycle of having to repeat the learning process with each conflict?

MILITARY LESSON LEARNING PROCESS

Vetock, in a study to examine when and how the Army made use of its combat experiences to learn lessons, focuses on the lesson-learning process itself: the procedures that transform data or observations into lessons or useable experiences and then how those lessons become learned.[3] There are several basic elements that make up the process of lesson learning: observation, communication, analysis, decisionmaking and, finally, implementation. In other words, an army identifies its useful experiences; these experiences are communicated to experts who study and analyze them, make a decision about their validity and resolution, and then apply them to doctrine, organization and training in a continuous circuit running from the battlefield through higher headquarters, and back again to the battlefield. The overall process should be understood as lessons learned.[4]

Varying influences have impact on whether the observations become a learned lesson. First, there must be an intent to learn; otherwise the experience is only an event or coincidence. The duration of the conflict influences whether it becomes a learned lesson. It must last long enough to determine whether doctrine works or long enough to re-learn it if it is already known. The stability of the military population influences the

process. If applied to the Army Nurse Corps, for example, one would find the Chief Nurses who would be deployed during the next conflict may not be the same as those who held those positions during Desert Storm. Size of the military organization impacts whether or not the lesson is applicable to all levels. Additionally, combat frequency, availability of experience, communication systems, stability of unit mission, availability of new technology, cultural affinity and the timing of the observation all influence the lesson-learning process. Observer traits such as: social attributes, writing ability, interest in the topic, experience in observing and recording events, reputation or expertise in field of interest, and bias also have impact on the validity of the lesson-learning process.[5]

Vetock postulates that:

> ...an Army learns lessons after it incorporates the conclusions from experience into institutional form. Out of the experience may come a lesson and from that lesson may come new or adapted doctrine or perhaps dissemination of potentially useful information. Only after its institutionalization can the lesson be correctly described in the past tense as a lesson learned.[6]

The end product of the lesson-learning process should be one or more of the following: a new publication, doctrine, training, or acquisition of either materiel or personnel. Those concepts and ideas that do not withstand the scrutiny required for acceptance as doctrine, continue as observations; they are not officially learned.[7]

HISTORICAL OVERVIEW

Did observations by Army nurses during combat become "learned lessons"? Or, as noted by Professor Jay Luvaas, might a more appropriate term be "insight gained"?[8] Prior to 1989 the Army Medical Department (AMEDD) did not maintain a central repository or data-collecting cell for After Action Reports and Lessons Learned. In 1989, a Lessons Learned cell was established at the Academy of Health Sciences, the AMEDD Center and School, at Fort Sam Houston, Texas. Much of the data for this paper was extracted from published or unpublished personal experience monographs and personal interviews.

In looking at conflicts from World War II to Desert Storm one might ask: Are there structural differences in the various conflicts that substantially alter the standard of transition from a peace-time mission to that of war?

World War II and Korea were both conflicts of long duration. Because hospitals were staffed prior to deployment, they were sent out as units in which bonding and cohesion had already taken place, providing a great amount of personal and professional support. In addition, there was little or no individual rotation, and people understood that they were there until the entire unit was rotated out of the combat zone.

During Vietnam, although there was no certainty as to when the war would end, those assigned to Vietnam knew that a tour was one year after which they would return to the United States.

Instead of reporting as part of a cohesive unit, the majority of nurses went over individually, often as the only nurse on a plane full of combatants. Lacking the familiarity of their own units, many nurses, particularly the younger and less experienced ones, felt the lack of support systems. As newcomers arrived, "old-timers" would quickly show them the ropes and depart.

Smaller conflicts such as Grenada (Urgent Fury) and Panama (Just Cause) were of short duration and active duty units deployed had worked together and built unit cohesion. In Grenada these advantages were partially lost due to the hospital unit's arrival after combat had ended and its location on a separate island. The Panama experience was unique; medical support consisted of small teams of highly trained professionals who had been involved in the development of the unit and had trained together as a team for almost two years prior to deployment.

In the middle of the spectrum was Operation Desert Storm. Although this may possibly be the worst of all cases, it is probably the scenario of the future. The corflict was a large scale contingency of extended duration where people were thrown together in an ad hoc manner to staff the many reserve units being deployed. The small-scale, highly trained team approach was not enough. Units that demonstrated the greatest cohesiveness, personal and professional support, and problem-solving ability were those that deployed with the majority of their staff preassigned from the hospitals collocated with field units in the United States.

From all these wars and conflicts emerged a series of trends or related observations that appear to be useable experiences which could be codified into lessons learned. These experiences fall into four major areas: training, environmental conditions, innovative practices and redeployment.

WORLD WAR II

Training

Prior to World War II the few training programs for Army nurses were designed only to prepare them for clinical or functional assignments and provided no military training. It was believed that nursing duties in a military hospital would "not differ ... from the duties in civilian hospitals."[9] There was a complete absence of training for operation under field and combat conditions.[10] Many of the Chief Nurses assigned to field hospitals were recruited from comparable civilian positions and had no more experience in military procedures than their subordinates. What training the nurses did receive was provided only at the hospital commander's discretion.[11] In contrast, Medical Corps officers were provided nine months of postgraduate training to prepare them for wartime medicine.

In September of 1942, the Training and Nursing Divisions of the Office of The Surgeon General recognized that hospitals destined for theater assignment required assistance in training

nurses. As one Chief Nurse in the European Theater was to write:

> The young women in our group had been expertly trained, many of them were specialists in orthopedics, anesthesia and operating room techniques but their knowledge of military procedures was deplorably nil. Nor were we destined to benefit by any systematic training or any effective hardening-up exercises before we embarked for destinations unknown. We were to learn though the hard way.[12]

A program was published that provided four weeks of instruction for nurses in theater-of-operations units. It soon became apparent that nurses were not attending the programs because hospital duties took precedence over training.[13]

It was not until late 1943 that the Training Division, Office of The Surgeon General, recognized that nurses needed basic military training before being assigned to hospital units. One Chief Nurse, after having been in the European Theater (England) for almost a year, was sent along with 29 other American nurses from the theater to a "Battle School for Nurses" in Shrivenham, England. There they learned to drill, cook a chicken, climb a tree and cross a river on two ropes strung twenty feet above the water. They learned to pull stretcher patients over the water by means of pulleys. Included in the lectures were instructions on the detection and neutralization of "booby traps" and what to do during "gas attacks".[14] High morale developed in nurses who completed this training and who were now correctly outfitted, had personnel records and immunizations completed, and most importantly, had a full awareness of their duties and responsibilities as officers. It was observed that

the military gained maximum benefit from nurses' technical skills after they had been trained to come to grips with the special problems of Army nursing.[15]

Nurses stated that from a professional standpoint, they felt they were doing the most satisfactory work of their careers-treating people in need of expert nursing care while at the same time developing and learning new techniques. Although there were many casualties, there were also problems with diseases that these nurses had never before encountered. For example, practically everyone in the Pacific Theater had malaria. Bacillary and amoebic dysentery were difficult to treat with no cooling drinks or special diets available.[16] Frostbite was common among flyers returning from raids over Germany. Frozen hands would sometimes swell to three times their normal size; much careful research was done and progress was made in saving hands from amputation.[17]

The professional expertise of these nurses was enhanced by military training which had prepared and equipped them for conditions totally unlike their peacetime environment.

Conditions

Observations regarding the austerity and hardships of the combat environment can be noted across the spectrum of theaters and engagements. During World War II it was noted that at no other time was the group of nurses so discouraged and disheartened as it was at the first bivouac area. Women were not

expected in theater; therefore no provisions for accommodations had been made. Nurses experienced an abrupt change from a home environment of comfort, tasty food, lights at night, plenty of soap and hot water, central heating, private baths and familiar surroundings; to a combat environment of bombed-out buildings, scant food, no soap or hot water, black paint on windows, coal stoves, and community baths. The resulting adjustment was the sharpest the group ever had to make. They were to experience worse conditions as the war progressed but the changes were gradual; they did not happen overnight.[18] In England, where they had nearly all the luxuries of home (in comparison), there were always complaints; in France, where civilization was dispensed with altogether, no one complained. From these experiences an important lesson could have been learned: that nurses are willing to accept sacrifice and hardship when preparation has been provided and change has been gradual.

In World War II, as in every war, great flexibility was required among nurses. Hospitals moved with the troops. Whenever they received a "march order" and had patients that were non-transportable, they formed a holding company of two nurses, a doctor and several corpsmen. This holding company was left in a field with the barest of essentials, no transportation, and no field phone.[19] Hattie Brantley (one of the sixty-seven nurses interned by the Japanese in Manila) relates that following the Japanese attack on Clark Air Base, they were told to move and set

up a field hospital on the Bataan peninsula. She describes the move:

> We moved in open buses in the early morning of Christmas Eve, and all along the way we had to stop, get out and lie in ditches because of the bombing. It took all day to get there. No breakfast. No lunch. And when we arrived nothing was set up.[20]

During World War II, nurses were deployed with uniforms that proved to be inappropriate and inadequate. They were finally issued men's coveralls. Nothing fit properly; there was no place to shop; what family members sent (socks, underwear, food, etc.) became like a life line. It was often just as tough for the nurse to get something to eat. Initially they were issued three cans of food a day; then it was decided nurses only needed two cans a day. When there was a water shortage each nurse was given one canteen of water to drink and one helmet full of water to wash herself and her clothes.[21]

In all theaters the hospital arrangement was much the same with thirty to forty cots per ward. In the Pacific, huts with woven palm leaves on the roofs and sides were used, sometimes in the open. While in Europe, tents or abandoned buildings provided shelter. In many cases, casualties arrived before the hospital setup was completed, filling and overflowing the hospital.

Tent hospitals often provided significant nursing challenges. Space was so cramped it was necessary to arrange the patients head to feet so they would not breathe into each other's faces. Lighting consisted of one lantern hung in the middle of the tent from a nail, and the nurse and corpsman each had a

flashlight. Keeping patients warm was a difficult task. Each patient had three blankets, and the tents had a stove that burned whatever could be scrounged. Later in the war, the hospitals received oil-burning potbellied stoves.

In all theaters adequate staffing was a problem. A nurse assigned to caring for patients who were minimally wounded, would be responsible for six wards (tents), or approximately 180 patients. Help consisted of one medic assigned to each ward. For the sicker patients the ratio would be one nurse for two wards. The very ill were kept in the post-operative unit until stable enough to be transferred to the rear echelons and then home.[22] Casualties tended to arrive in waves. During heavy fighting, nurses worked 18-20 hours with no days off. One nurse wrote in a letter home:

> I've lost track of time on this 24-hour-on-call status in the operating tent. We've been working full tilt since late 1944 (now 3-27-45). Our being here, up front, has saved many lives.[23]

The importance of training to increase flexibility and adaptability is the underlying lesson to be learned from a review of these wartime conditions.

Innovations

In the incredibly difficult environment of World War II it was observed that the best nurses were those who never took no for an answer and always found a way to get things done. When the hospital was filled to capacity the nurses learned how to

improvise and economize. Often the minimal care patients were enlisted to help with sicker patients. Some of the ambulatory patients turned out to be such excellent help that the nurses would engineer reasons to prolong their stay.

On Bataan, when horses and mules were killed by bombs, nurses did not hesitate to use them for food. On Corregidor, where thousands were holed up in tunnels, there was a shortage of everything: ammunition, drugs, supplies and food. Someone found a supply of cracked wheat that had been stored in the tunnels since 1918. Brantley relates that they ate the worm larvae that floated to the top of the cereal for the protein. Those who did not survive had refused to eat it.[24]

Redeployment

At the end of the war, a point system was established to determine who would be the first to go home. Nurses, many who had been in theater from the start of war, quickly made the "order list" and moved to the replacement centers. Fifty-six of those on one list were nurses, four of whom were Captains and all the rest 1st Lieutenants, which according to Wandrey:

> ...shows how shabbily nurses were treated in the promotion pursuit game. Our lives have been permanently altered: people who stayed at home would never understand us.[25]

Peto describes the outprocessing experience:

> ...a camp of utter confusion! Where the process of getting discharged reduced hard-boiled veterans to frustrated, gibbering pulp. Eyeing the nurses with suspicion and dismay the billeting officer said "women were

> not expected"! After three and a half years! Why was the Army always surprised to find women on its hands?[26]

Even though the process of going home produced many feelings of frustration for these World War II nurses, they returned home with a sense of pride and accomplishment. One nurse described her experience in this way:

> When I look back at my service in the Army Nurse Corps, it was like being a butterfly released from a chrysalis. I joined to serve my country. Instead my country served me. It opened a new world to a self-conscious, small town girl and made her feel as though she mattered.[27]

Despite the satisfaction derived from Army Nurse Corps experience, an important lesson should have been learned: that nurses are valuable and often heroic soldiers who are entitled to the same recognition and rewards as other personnel.

KOREA

Training

There is limited data written about nursing and nurses during the Korean War, although at one point (July 1951) there were over 5,000 nurses on duty in South Korea in support of United Nations troops. Because of the United Nations role, the U.S. Army nurses experienced very fine relationships with nurses from other countries such as Holland, Denmark, Norway and Sweden. They organized a 38th Parallel Medical Society Nurses Association

which met every three months. One Norwegian Surgical Unit Chief Nurse said she would take back to Norway and adopt some of the American Nursing Practices.[28]

Several of the Chief Nurses in the Korean Conflict had served during World War II; combat and hardship therefore were not new to them. In 1950, nurses were flown to Ascon City, Korea. The lessons of World War II had not been learned. Once again the U.S. military had made no preparation for quarters for women. The nurses were immediately put on duty the day they arrived and continued to work for days without rest.[29] It seems that in every conflict staffing is a problem. The lesson to be learned is the need for creative scheduling to avoid becoming martyrs.

A different experience was related by one of the young staff nurses. She had about a year's experience as a nurse before joining the Army. Her whole hospital unit was deployed to Japan where she remained for about ten months, caring for the wounded evacuated out of Korea, before she and her best friend were sent to Korea. Hers was a gradual exposure to the combat environment.

Nursing care challenges were similar to those faced during World War II. Nurses declared, "We learned to care for frostbite by on-the-job training (OJT)."[30] Yet this was not a new injury, since it had been seen in the European theater. Prevalence of hepatitis and hemorrhagic fever provided a new dimension in nursing care. Because of renal failure caused by hemorrhagic fever, there was a dialysis unit at the 11th Evacuation

Hospital.[31] The lesson to be learned was the value of gradual exposure to combat environment as well as training in new techniques for treating conditions not commonly encountered under peacetime conditions.

Conditions

As during World War II, hospitals moved about the battlefield and nurses moved with them in the back of trucks. The hospital was set up in the shape of a cross. At one field hospital later in the war, the operating room (OR) and dialysis unit were located in quonset huts. Brigadier General (BG) Anna Mae Hays recalls that at one location the nurses were billeted in an old building. They first had to clean away the fecal material from the previous animal occupants before they could put their bedding rolls down. The windows were broken, but there was a little fireplace outside to heat water.

The hospital had cots and blankets for the patients but no sheets. Water was in limited supply so the OR had very little water for scrubbing. It was so cold in the OR that when the abdomen was opened, steam would rise from it. The nurses wore fatigues and field jackets under their sterile scrub gowns. Laundry was always a problem; however, food and the blood supply was always plentiful.[32]

In her oral history, BG Hays states:

> When I compare Korea with my experiences in World War II, I think of Korea as even worse than the jungle of World War II because of the lack of supplies, lack of warmth.[33]

Many days they worked from seven in the morning until three the next morning and never worked less than twelve hours a day. One nurse recalled that in seven months she never had a day off and could not remember ever leaving the compound. Usually, no one complained.[34] Again the lessons of need for adaptability to hardships and creative scheduling to avoid martyrdom come to mind.

Innovations

There were so many patients that the nurses were forced to become resourceful and efficient. Work was planned and carried out in wholesale fashion. It was during the Korean War that doctors and nurses began to help make a determination as to which hospital patients would be assigned, based on availability of bed strength and specialty.[35] This process of assignment according to availability rather than location, improved efficiency and decreased operating room waiting time.

Because of the scarcity of water, at the end of the work day the nurses would take the hot water from the sterilizer back to their quarters and wash with it. When they had spare moments they would roll bandages. To help ease the hardships they made themselves a little club room where the coffee was "good and hot."

VIETNAM

Training

The Vietnam war was very different from both World War II and Korea. No front lines in the traditional sense existed; war was all around; and there were no secure road networks. Hospitals, therefore, could not follow and support tactical operations, and ground evacuation of the wounded was next to impossible. Hospitals became fixed installations and helicopters became the primary means of evacuation.

Formal preparation for Army nurses consisted of an eight to ten week basic training course at Fort Sam Houston, Texas with some classes in combat nursing. Endurance training or information about the health beliefs and practices of the Vietnamese were not part of their preparation. It was as if military planners believed nurses were going to "just nurse" rather than spend a year working long hours with a very different people and, at times witnessing and participating in the dangers of war.[36] While flying via a C-130 transport to her assignment within Vietnam, one nurse describes coming under attack. She had no idea what was going on nor did she know what to do. Everyone else on the aircraft hit the floor. She wrote:

> At that moment I realized that these men were trained to survive in a war zone but that I was not-that I could get killed....everything I learned about surviving I learned from the men.[37]

Training that was given was not always taken seriously; one nurse commented:

> In San Antonio, I never took my basic training very seriously. It was only later I realized that I should have. What to do in case of a nuclear attack, what to do for chemical warfare, how to handle a weapon. Patients would come in with a full magazine in their M-16. Once a patient had a grenade with the pin pulled, wrapped in a handkerchief and stuffed into his pocket. I thought "Gosh, if only I had listened."[38]

Female nurses arrived in Vietnam in their class B uniforms: a two-piece cord suit, hat, high-heeled shoes, a purse and sometimes gloves. Occasionally these uniforms proved dangerous, as the plane would land under attack and passengers would have to run from the aircraft to the bunkers.

Although the official policy was not to send inexperienced nurses into the theater, the reality was, according to BG Hays, that 60% of Army nurses in Vietnam had less than two years of nursing experience and of that 60%, most had less than six months.[39]

Many of the nurses describe a period of adjustment or "settling in" time. For some it was as long as three months but the majority seemed to need about a month and a half during which they were focused on "just trying to get by" in a totally new environment. Motivation was high, however, to become proficient and responsible.

Much like nurses in previous wars, nurses in Vietnam had to deal with a whole set of new experiences. They encountered diseases they had never seen before: typhoid, tuberculosis,

malaria, dengue fever and bubonic plague. Because of the severity of the wounds and the sheer numbers of casualties, in Vietnam as in previous wars, nurses were called upon to function at a level far beyond their previous scope of practice. Many times the triage responsibility fell to the nurse. Nurses inserted chest tubes, performed tracheotomies and provided lifesaving support. Personal satisfaction was heightened by the knowledge that they were respected not only for their technical skills but for their clinical judgement as well.

Mortality rates at military medical facilities were under three percent. Triage played an important role during periods of heavy casualties. Although it saved lives, it created a dilemma about the quality of life left for some of the men. Sometimes the injuries were so severe that in previous wars they would not have survived, but in Vietnam they received treatment in time leaving them with severe handicaps.[40]

In the latter part of the 1980s, several nurses wrote books about their experiences in Vietnam. One of the issues that seemed to cause a great deal of stress dealt with triage. Some related the horror of having soldiers placed in the "expectant" category; however there was a large number of nurses who expressed the opposite viewpoint. Many said "the expectant category was rarely used."[41] Another remembered:

> We never had to make too many choices. The only cases that we had to make choices in were the severe head injuries....I never believed I was playing God. I believed I was doing what I was educated to do. We're here to save lives--that's our purpose.[42]

Generally, if the patient required extensive surgery, the patient got extensive surgery. The doctors and nurses were not trained - mentally, ethically or emotionally - to let people die. Most could not make that decision even though they could see the kind of future the patient would have.[43]

Another psychological dilemma that was created in this environment focused on the treatment of the Vietnamese. Sometimes as the staff was working on the American casualties, the Vietnamese who had laid the mine or caused the casualties would also be brought in. The combat soldier's attitude toward Viet Cong and North Vietnamese was clear - kill or be killed. The nurses' feelings about the enemy were more clouded. Should enemy soldiers receive the same nursing care as Americans? Helping the enemy recuperate and survive seemed to some, disloyal.[44]

One operating room supervisor in Vietnam indicated that when problems arose they were usually due to a breakdown in professionalism. Her belief was that standards must be maintained professionally and personally; when one starts to erode the other soon follows. She stated that most of the doctors, nurses, and corpsmen were devoted to their duty, really living up to the motto "duty, honor, country." The lesson to be learned is that although operating in a war zone, the professional must continually improve the situation. When the environment is allowed to stagnate or deteriorate, the work product soon follows.[45]

In spite of the hardships, almost to a person, nurses reflect that nursing in Vietnam was the ultimate professional experience. There reigns a general perception that this experience provided a sense of accomplishment and made them better nurses than they ever imagined they could be.

Conditions

Anne Allen, a free-lance newspaper journalist in Vietnam wrote:

> If the war had any true heroes, they were the medics and nurses.[46]

Even though they did not fight battles, the nurses saw the need to develop survival skills. Survival was more than living through enemy attacks. It was a need to preserve emotional and personal integrity. Support systems and coping skills aided in that preservation. Because of the 365-day rotation, the benefit of the long-term camaraderie that was experienced in previous wars, when whole units traveled to and from the war zone together, was missing.

Experience and maturity helped personnel face the unique aspects of Vietnam. Personal backgrounds helped prepare the young people; those who were used to living without amenities fared much better. Those who grew up in military families and moved around the world felt they had the flexibility to adjust more readily. One of the mid-grade nurses commented that she had been in the Army for a while before she went to Vietnam and had

built up a support system. Although she went into a strange area, there were others there she already knew.[47]

As was mentioned earlier, many of the nurses were in their early twenties. They were the ones who needed experience. They were the ones who needed the most support, not only professionally but emotionally as well. As recent graduates of nursing schools they first had to adjust to nursing; then to the Army; and then to a hostile environment - war. As one nurse observed:

> That was an awful lot of adjusting to do within six months to a year of coming into the Army.[48]

It has never been easy to live, work and fight in a war zone; but, without the emotional support of the family and friends back home and clear goals of the war, morale sagged in the final years of America's involvement in Vietnam.

For support, nurses spent a lot of time together talking, looking at the stars, eating popcorn and singing. For those who stayed in the military there was a good support system. Almost everyone they knew in the Army Nurse Corps had either just come back from Vietnam or was just going.[49] A lot of sharing took place, both talking and listening.

Through research for her doctoral dissertation regarding women in combat, Elizabeth Norman found that, generally, those with Post-Traumatic Stress Disorder (PTSD) had been the younger, less-seasoned nurses. The older women, those who married Vietnam veterans or were involved in military careers had better coping

skills. The older women had more professional and personal experience before the war and had more insight and a better perspective on their roles. Those married to Vietnam veterans or who continued in the military lived in worlds that provided emotional support and stable life-styles. Norman made three observations about women in Vietnam:

> First, maintaining a sense of humor is important. Second, as a group nurses did not challenge foolish orders; they modified or worked around them. Third, military strategists seemed more interested in protecting women from their male comrades than from the enemy.[50]

Innovations

As in previous wars, sometimes circumstances required nurses to practice differently from what they had learned in the States. They fell into one of two categories; they either adapted quickly or gave up. Fortunately, most fell into the first category. They found that it was possible to do everything, even surgery, without all the creature comforts and most sophisticated equipment. Early in the war when supplies and troops were being brought in by ship, half of the equipment was being pilfered on the dock. A lot of improvisation was required; for example, old bottles were sterilized and used for chest tube drainage instead of medical-issue bottles. One nurse commented:

> We had to improvise equipment. It taught me that I was a good nurse; that I could function with minimum equipment under maximum stress.[51]

During periods of heavy casualties, operating room nurses would adjust technique and schedules to accommodate the influx of patients. Operating rooms had two surgical tables per room. Instead of each case having a separate set of instruments, all sterile instruments were placed on one common table. As instruments were depleted they were replaced with sterile ones. Although it was not the best technique, it worked, and there was a very low infection rate. Because of the severity of the wounds, some patients were not even undressed; they went into the operating room just as they were. There was so much blood and saline from washing the wounds in the OR that they simply drilled holes in the floor for drainage. In times of mass casualties they often would work thirty-six hours at a stretch. They policed one another. When nurses saw that one of their colleagues was reacting slowly or strangely, they would send that person off to get some sleep; someone else would cover.[52]

Redeployment

Homecoming for the Vietnam nurse was markedly different from those involved in previous wars. Unlike their predecessors, who had weeks to conform to peacetime routine aboard ships or waiting at embarkation points, Vietnam veterans often had only twenty-four hours to adjust to homecoming. Such rapid change was unsettling. As the war years continued, many military nurses adopted an alternative route home. Hawaii became a popular rest and recuperation location for many; or they would visit with fellow Army Nurses before continuing on to see family. No one

formally recommended it; they just seemed to know that they needed time to decompress before picking up their lives again.[53]

The greatest disappointment was that the professional equality did not continue in the stateside military or civilian hospital. Some looked back longingly to Vietnam where they felt appreciated and needed. Many would get into trouble for exceeding the scope of established practice in the United States, particularly those who left the military for civilian practice. How could they forget all that they had learned: inserting chest tubes, performing tracheotomies? As one commented:

> Vietnam prepared me for more responsibility and to deal with people. I don't think it hurt me mentally. If it did, I can't see it.[54]

Most felt that in helping to save so many lives, they invested in the future.

Perhaps the most significant lesson to be learned from the Vietnam redeployment is that gradual re-adjustment to the old environment is as important for those returning from war as it is for those going into war.

GRENADA

There is little or no documentation available on the experiences of nurses involved in Urgent Fury in Grenada. The medical community as a whole learned two very valuable lessons from this experience. The first lesson was that medical planners must be actively involved early in the planning phase of any

operation, and the second lesson was that there must be a light, mobile medical package ready to support contingency operations.

With the institution of the "Army of Excellence" and the concept that the Army could maintain the same number of divisions but with fewer people, surgical squads in the divisions became one of the billpayers. The 82nd and 101st Airborne Divisions were the exceptions; they maintained their surgical squads. Surgical squads, however, were just that; they only had a surgical set and enough personnel to perform lifesaving surgery. They did not have the professional nursing capability to provide the intensive pre- and post-operative care that would enable a soldier to survive his wounds off the battlefield.

During Urgent Fury the medical battalion of the 82nd went into battle with the division, but the hospital to support the operation was not scheduled to flow in for several days. A Mobile Army Surgical Hospital (MASH) required twenty-seven air frames which the task force commander had to use to put combatants in first. Departure was further delayed because the task-force commander would not allow women in the area of operations; in fact, some who did get on an aircraft destined for Grenada were quickly returned to Fort Bragg. The closest hospital for evacuation of patients was Puerto Rico. When the hospital unit did deploy from Fort Bragg, they established their facility on another island. By this time, the fighting was pretty much over. Because of this debacle, the commander of the medical brigade that supported the contingency corps decided to

develop a light, mobile, highly capable team that could not only provide lifesaving surgery but had the ability to provide the intensive type professional care needed before and after surgery. This unit would also have state-of-the-art, light, mobile equipment to assist these professionals. This capability required only one air frame. The Corps Commander was willing to give up an air frame to gain the medical capability. Medical planners from the brigade became aggressively involved in operations planning to ensure the appropriate mix of medical support arrived at the appropriate time. A valuable lesson had been learned.

JUST CAUSE

Training

On the heels of Urgent Fury came Just Cause in Panama. The lessons of Grenada were still fresh in the minds of the XVIII Airborne Corps, particularly the Medical Brigade. The forward surgical teams had been established and equipped. The majority of input regarding equipment and capability of these teams was provided by the professional staff, the nurses and doctors. A common-sense approach was taken with realistic expectations. Those involved in the development were not only competent professionals but were highly competent soldiers as well - an important issue.

This unit trained together as a team for about two years. The enlisted medics cross-trained so that they could replace one another if necessary. They also had soldier skills that did not require outside support (i.e., rigging pallets for air movement or sling load, repair of organic equipment.) They were airborne, in top physical condition, and had developed survival skills. Everyone knew everyone else's capabilities. It was a cohesive group.

Medical support for Just Cause was on the first aircraft leaving Ft. Bragg. Two weeks earlier they had a rehearsal with other participating units so the mission was clear. The Advanced Trauma Life Support and one Forward Surgical Team were set up and ready to receive patients when the invasion started. The Mobile Air Evacuation Staging Facility (MASF) was collocated with the medical unit so that everything flowed smoothly.

Innovations

An evolution in the conduct of practice of military nursing that had begun during the Vietnam conflict came to fruition during Operation Just Cause. The team was responsible for all aspects of care and logistics, to include sanitation, disposal of body parts and patient administration. Rather than entering the combat environment to "just nurse," nurses, as valued members of the health care team, were involved in the resolution of administrative problems that impacted on their ability to provide nursing care. Many of the observations and innovations discussed

in the remainder of this paper will therefore, be general in nature rather than specific to nursing only.

Several lessons can be learned from the Just Cause experience. The first was that the success of this medical unit was a direct result of the professional input into the development of the unit as well as the intensive training as a team. Another observation that needed to become a learned lesson was that a soakage pit for the collection of waste fluids needed to be dug very early in the operation. For the first few days, secretions from suction machines and other fluids were collected in empty fluid bottles until a soakage pit could be dug. Determination of disposal of body parts also needs to be made early on. This was not a problem in Panama because body parts were sent to the pathology department at Gorgas Hospital, but this capability will not always be available.

The Joint Casualty Collection Point experienced difficulty in returning patients to duty. Units moved and phone numbers were not available. When units were notified, commanders did not want the soldiers returned to duty unless they were totally fit. The medical unit did not have resources to provide for these soldiers, and unlike World War II, they were not needed for manpower. In an attempt to solve the problem, liaison officers from the medical element of the combat units were placed at the Joint Casualty Collection Point to assist in getting soldiers back to the units. The arrangement had only modest success.

Another issue during Just Cause was the lack of protective

equipment for the patients. Soldiers usually did not arrive with helmets, flak jackets or protective masks, and during a mortar attack on the airfield where the Joint Casualty Collection Point was located; these were critical needs. During the Vietnam conflict most wards had protective equipment for patient use, a valuable lesson subsequently overlooked.

A final observation had to do with the morgue, a quartermaster function. Graves Registration is a special unit that takes care of bodies and inventories personal effects. People in the field are often not aware of this procedure, and during Vietnam and again in Just Cause, bodies were sent to the hospital while Graves Registration and the morgues (refrigerator trucks) were located elsewhere. The Corps Support Commander, after being notified of the problem, collocated Graves Registration and the morgue with the medical facility. Such arrangements should probably be standardized for future operations.

Redeployment

Duration of the Just Cause conflict was very short and therefore, many of the problems of previous conflicts were not encountered. Medical units returned to the states as they had deployed; as a team.

DESERT STORM

Training

When medical units were deployed to Saudi Arabia for Operation Desert Shield, it was the first deployment of any significant number in sixteen years. People were taken by surprise; many believed that it would never happen to them and were unprepared for it. In reviewing After Action Reports submitted by the Nursing Departments of the deployed hospitals (both active and reserve), several issues appeared in every report. The repetitiveness of these issues merits critical analysis.

The number one issue was lack of readiness training. It was recognized that the Forces Command (FORSCOM) and Professional Filler System (PROFIS) nurses did not receive adequate training with the Modified Table of Organization and Equipment (MTOE) unit due to Medical Treatment Facility (MTF) mission and staffing. People were not prepared for duties necessary to create an environment conducive to living and working in combat. One unit kept setting up the hospital, taking it down, and then setting it up again. In their inexperience and without established guidelines, they were forced to use trial and error until they found a plan that worked. Fortunately they had the time to experiment.

Army Nurse Corps officers in some cases seemed emotionally

unprepared for deployment:

> Expectations of recreational facilities and post exchange availability upset officers when there were none. The "MASH" and "China Beach" picture was the expected norm so people thought that the system was failing when in actuality, things were not as painted on T.V.[55]

A correlative issue had to do with realistic training. When the TOE units had field training, there was minimal participation by the professional staff. They also did not have the benefit of providing patient care in their facility; therefore, a great amount of simulation took place during training exercises. Because so much was simulated, there was no assurance that each piece of equipment worked as it should, nor could there be assurance that all critical parts were available.

Assignment of personnel also became an issue. FORSCOM nurses who had some interaction with their assigned TOE unit were usually junior in rank, and when deployed, were replaced as Head Nurse by senior, more clinically experienced nurses. The senior nurses were at a distinct disadvantage because they did not know the equipment, supply and personnel capabilities of their ward or section, creating a perception of lack of credibility among the junior nurses who had more experience with unit capability and equipment. Deployment as an intact unit with PROFIS nurses from the hospital collocated on the installation with the TOE hospital resulted in a very positive experience. Nurses already knew one another and were accustomed to working together. According to

one Chief Nurse:

> These nurses were a united group when they arrived in country, stayed united and supported each other as they faced new challenges daily.[56]

Units also found that when the professional staff was attached to the deploying unit six to eight weeks before leaving for the theater of operations, there was greater unit cohesion and fewer problems. There was time for unit training with special emphasis on Nuclear, Biological and Chemical Warfare (NBC), weapons qualification, field sanitation, Advanced Trauma Life Support (ATLS), Advanced Cardiac Life Support (ACLS), Deployable Medical Systems (DEPMEDS) equipment, survival skills and physical training. Predeployment training served to integrate PROFIS personnel into the unit and to assure common knowledge regarding soldiering skill and clinical issues.[57] On the other hand, units that experienced fragmented deployment of nursing personnel found a decrement in their ability to perform the mission because of the lack of training.[58]

A requirement for cross-training was identified as an issue. Enlisted soldiers were frequently utilized by the unit for details unrelated to their expertise in operating DEPMEDS equipment. During the establishment of the hospital, this proved to be a major problem because these trained experts were needed, particularly in the handling of Dolly Sets. This same issue had been identified during training exercises and evaluations. Desert Storm validated exercise findings. The lessons from experience are that all hospital personnel should be trained in

the operation and use of all DEPMEDS equipment; and, the work distribution among the enlisted members of medical units should be re-evaluated.

Use of chemical and biological warfare was part of the threat analysis. Decontamination procedures required significant numbers of personnel and large amounts of water, decontamination solutions and space, presenting a major challenge to medical preparedness. Hospital personnel relied on luck, exceptional control of soldiers, and use of research equipment that was not currently available in country but "promised".[59]

Operational security was also a problem. Nurses and physicians were overheard discussing classified information in public places and in one case even drew a map pinpointing an intended relocation. Officers apparently did not understand the sensitivity of classified information and failed to safeguard it. Lives and mission success were jeopardized.[60]

Conditions

The most significant lesson learned in the desert environment was that:

> ...extreme heat, blowing sand and dust took their toll on both personnel and equipment. Mobile Unit Self Transportable (MUST) Utility Packs (UPACs) had great difficulties overcoming intense heat and were frequently non-operational. All MUSTs were modernized to Deployable Medical Systems (DEPMEDS) equipment.[61]

A problem that arose with every deployment, for peacetime missions as well as combat, was lack of physician and nurse

understanding of the medical supply system, and differences in terminology used by supply personnel and medical personnel. Much frustration could have been avoided by standardizing terms and understanding the system.

Hospitals' supply, equipment and medication stockage list was based on the hospital's mission. When tasked with the additional mission of sick-call, hospitals were not appropriately supplied since this was not their normal mission. Wherever a hospital is located, experience has proven that troops will migrate there for sick call. Units should have been prepared for the inevitable. In every war civilian casualties also occurred. These casualties were usually taken to the nearest American hospital. Again, hospitals in Desert Storm should have been prepared to care for these individuals including pediatric and obstetrical patients.

Out of the Desert Shield/Desert Storm experience came many recommendations regarding DEPMEDS equipment, staffing and supplies. For the first time, the professional staff was able to evaluate and validate DEPMEDS capability using real time experience. These recommendations are too numerous to address in this paper but it would greatly benefit the medical community if the DEPMEDS branch and combat developers seriously analyzed these observations and recommendations and determined what can be changed and what would be an acceptable risk to keep as is.

Another issue was nursing documentation forms, which received numerous comments in After Action Reports. Although an

information paper was written by the Nursing Consultant providing guidance for nursing records documentation for the operation, it was apparent that this information did not flow down to the hospitals. Consequently, much confusion existed creating a break-down in standardization.

The provision of medical evacuation attendants and equipment created a decrement in each hospital's ability to accomplish its mission. When critically ill patients were transported out of theater, the Air Force required that both the attendant and the necessary equipment be provided by the hospital evacuating the patient. Once the patient was delivered to the next level hospital (usually in Germany) the attendant (most often a critical care nurse) was left to obtain food, lodging and return transportation on his or her own. Since the attendant was no longer on a Medical Evacuation mission he/she no longer had priority on flights returning to theater. Average time away from the unit was four to five days. Critical pieces of equipment also accompanied the patient (pulse oximeter, portable ventilators, ambu bags), leaving the hospital short.

Just as in Just Cause, hospitals experienced difficulty in returning soldiers to duty after discharge from the treatment facility. Units moved frequently and tactical phone numbers were not always available. Assets were not available at the hospitals to provide for these soldiers while waiting for transportation back to their units.

Many of the issues discussed in the After Action Reports were unit-specific and were a result of leadership problems. For example, living conditions, field sanitation, utilization of enlisted 91 Career Management Field (CMF) soldiers for duties other than patient care, and convoy procedures are all responsibilities of the unit commander and fall under the heading of "Taking Care of Soldiers". However, observations made about living conditions during Operation Desert Shield/Desert Storm pale in comparison to other wars, particularly World War II.

In reading the After Action Reports of Desert Shield/Desert Storm, it became crystal clear that Army Nurse Corps Officers did not know doctrine. Clearly, many of the issues addressed became issues only because people did not know or understand how the system was supposed to work. For example, there was a lack of understanding as to the method for calculation of medical supply estimates; what items were unit supply or medical supply items; methods of equipment exchange during patient transfer; and staffing authorizations, especially for the Forward Surgical Teams. They felt, therefore, that the system had failed them. One must know doctrine in order to exercise it.

Innovations

One of the most exciting aspects of being a member of the Army Nurse Corps is witnessing the creativity and innovative accomplishments of Army nurses. Even without the training for a field environment they adapted and found ways to "get the job

done no matter what." Training, however, would have reduced the anxiety and frustration, releasing that energy to be focused on caring for patients. As mentioned earlier, many problems with DEPMEDS equipment existed but they found ways to reconfigure or design the hospital that provided for efficient patient flow. They learned to repack ward units and tent components and label them, eliminating disorganization when they reached their new destination.

One unit attached unit patches to bed tags inserted in document protectors to help unit representatives easily identify assigned personnel.[62] This same unit developed, approved and distributed Mass Casualty standing orders while waiting at the staging area. Others found that small things like placing the I.V. pole in the second receptacle in the bed allowed the bed to be placed closer to the wall, increasing the size of the aisle. Placing 550 cord around tent poles through ceiling rings for hanging various items avoids stress on the tent lining. For patients requiring traction, beds were turned with head to the aisle and traction was attached to the frame of the tent. Milvans were aligned parallel to or perpendicular to the patient care units for storage of supplies. Another unit modified a 500 gallon water blivit with PVC pipe, attached garden hose and connected their sinks to it. The bladder was placed on top of one of the storage milvans for gravity feed. Apparently, it worked perfectly.[63] Many of these innovations had been developed during training exercises but had not been shared with other

units. Creating an environment that allows creativity to flourish allows for a sense of accomplishment and everyone benefits. Sharing such insights by incorporating them in procedural training would decrease frustration and implement efficient use of time and equipment.

Redeployment

After Action Reports did not address the redeployment phase; therefore, it will not be discussed in this paper other than to make the observation that some units returned home to a hearty welcome while those redeploying at a later date did not.

CONCLUSIONS

Vetock said lessons learned are those procedures that transform experiences into new or adapted doctrine or some institutional form for dissemination. A trend-line analysis indicates there is a replication of experiences of nurses over the years from combat situations that are ripe for being transformed into Lessons Learned.

The Chief of Staff of the Army states that we will remain a trained and ready force, although a smaller force. The future holds uncertainty. We no longer have an easily identifiable threat to our national security. In all probability we, as an Army, will find ourselves responding to regional contingencies. We may not enjoy the luxury of a six-month build-up to respond effectively. We have a responsibility and obligation to be trained and ready to respond today should we be called on to do so.

Lack of training and preparation for the combat environment were noted repeatedly in the data gathered for this report. Whereas, during peacetime fairly comfortable conditions lead to certain expectations, the combat environment is filled with unpredictable, uncontrollable variables which render such expectations unrealistic and damaging. The only predictable thing is, as matter of fact, unpredictability. There is consequently an inefficient, gut-wrenching transition period from

peacetime operations to wartime. Because people are most effective when stress is at a manageable level; the need is to prepare military nurses to react to combat conditions in an adaptive mode. Knowledge of doctrine and the mechanism for accessing the system help to defuse unrealistic fears and expectations as well as decrease the frustration level. Although considered non-combatants, throughout history nurses have been placed "in harm's way", and have indicated both a strong need and desire for survival skills training.

Conditions during combat have vastly improved with each conflict. Adaptation remains the key to the effectiveness of the care giver. Ability to adapt relates back to training. A person who has been trained to live and work in an austere environment will more readily adapt to the hostile combat environment. Changing the conditions is generally outside the scope of the nurse's ability; however, resolution of the problems created by the conditions significantly affects the quality of care that is provided as well as the quality of life of the provider.

Experience through the years has shown that low technology is every bit as important in a combat environment as high technology. One lesson that was learned and has remained throughout, is that no matter what the circumstances, the creativity and innovations of Army nurses ensured that the very best care was provided to our soldiers. During each conflict, innovations not only solved the problem of the moment but were

instrumental in the advancement of the professional practice of nursing.

Redeployment experiences seem to differ with the varying circumstances of each conflict; however, time and again it has been shown that support systems (family, friends, colleagues or organization) are critical during the transition back into a peacetime environment.

If lessons pertaining to these experiences are to become learned, the end product of the process requires at least one of the following: a new publication (Regulation, Field Manual) or training, acquisition of either materiel or personnel or a change in doctrine. Documented change in doctrine with dissemination to the operational level through training provides the guidance needed to transition from peacetime nursing to combat nursing. Without a change these experiences will simply be termed "observations" not lessons learned.

The absence of a formal Lesson Learning process has accounted for the lack of progression of observations through analysis and decisionmaking to the implementation stage. Now that there is a formal Lessons Learned cell within the AMEDD Center and School, the process has an established mechanism for success. The challenge now is to analyze these observations and recommendations and translate them into doctrine, training or organizational change.

Nurses' recollections of war are timeless. Each remembers long hours of working with grievously injured young men, but the

experience is remembered as the ultimate challenge of a nursing career. Combat nursing represents the summit of professionalism, the peak from which all other nursing experience seems to pale in comparison. Most combat nurses have learned they are capable of handling anything. However, we certainly do not want "lessons" painfully learned in previous wars to lie fallow between conflicts, only to be relearned at human expense in subsequent engagements.

ENDNOTES

[1]Dennis Vetock, Lessons Learned: A History of U. S. Army Lesson Learning (Carlisle Barracks, Pa.: U.S. Army Military History Institute, 1988) 3.

[2]Ibid., 2.

[3]Ibid., 1.

[4]Ibid.

[5]Military Lesson Learning Advance Course Material (Carlisle Pa.: U.S. Army War College, 1993).

[6]Vetock, 128.

[7]Douglas V. Johnson, "Why Lessons Aren't Learned", memorandum for Department Chairman, U.S. Army War College, Carlisle, Pa., 10 May 1991.

[8]Morton Jay Luvaas, "Lessons and Lessons Learned: A Historical Perspective," The Lessons of Recent Wars in the Third World: Approaches and Case Studies, eds. Harkavy and Neuman, Volume I, (Lexington, Mass.: Lexington Books, 1986), 69.

[9]Robert J. Parks, Medical Training in World War II (Washington: Office of The Surgeon General, Department of the Army, 1974) 127.

[10]This lack of field and combat training will become one of the major themes across the spectrum of all combat operations with the exception of "Just Cause".

[11]Parks, 129.

[12]Marjorie Peto, Women Were Not Expected (West Englewood, N.J.: Author, 1947), introduction.

[13]Ibid., 130. In almost every After Action Report from Operation Desert Storm this same issue was discussed.

[14]Ibid., 47.

[15]Ibid., 132.

[16]Larry Lane, "Nurses in Combat Boots", Soldiers, May, 1992, 33. As related by Brig. Gen. Anna Mae Hays, ret. Chief of Army Nurse Corps.

[17]Ibid., 47.

[18]Ibid., 9.

[19]Jane Wandrey, Bedpan Commando (Elmore, Ohio:Elmore, 1989), 172.

[20]Frank Cox, "Angel of Bataan", Soldiers, September, 1989, 46.

[21]Lane, 35. As described by Maj.(ret.), Ella May Harper.

[22]Roberta Love Tayloe, Combat Nurse: A Journal of World War II (Santa Barbara, Ca.: Fithian, 1988), 40.

[23]Wandrey, 180.

[24]Cox, 46.

[25]Wandrey, 234. Jane Wandrey had spent almost three years in Europe and North Africa suffering many hardships.

[26]Peto, 108.

[27]Eugenia Kieler, Thank You, Uncle Sam (Bryn Mawr, Pa.: Dorrance and Co., 1987), 220.

[28]Ruby Bradley, Col. "Oral History" (Carlisle, Pa.: Military History Institute).

[29]Ibid.

[30]M.Louise Minter, Ltc.(ret.),AN., interview by author, 3 February 1993, Carlisle, Pa.

[31]Ibid.

[32]Katherine Jump, "Oral History", (Carlisle Pa.: Military History Institute).

[33]Anna Mae Hays, Brig. Gen., " Oral History", (Carlisle, Pa.: Military History Institute).

[34]Jump.

[35]Albert E. Cowdrey, The Medic's War, (Washington: Center for Military History U.S. Army, 1987), 257.

[36]Elizabeth Norman, Women at War, (Philadelphia: University of Pennsylvania Press, 1990), 13.

[37]Kathryn Marshall, Combat Zone: An Oral History of American Women in Vietnam (Boston: Little, Brown and Co., 1987), 213.

[38]Ibid.

[39]Marshall, 6.

[40]Dan Freedman, and Jacqueline Rhoads, eds., Nurses in Vietnam: The Forgotten Veterans (Austin, Tx.: Texas Monthly Press. 1987), 46.

[41]Ibid.

[42]Ibid., 62.

[43]Marshall, 250.

[44]Norman, 39.

[45]Freedman, 54.

[46]Marshall, 198.

[47]Freedman, 42.

[48]Ibid.

[49]Ibid., 99.

[50]Norman, 67,147.

[51]Ibid., 121.

[52]Freedman, 60.

[53]Norman, 116.

[54]Freedman, 161.

[55]Desert Shield/Desert Storm After Action Report, 5th Mobile Army Surgical Hospital, "n.d."

[56]Desert Shield After Action Report 47th Field Hospital, Nov, 1990.

[57]Desert Shield/Desert Storm After Action Report, 47th Combat Support Hospital, March, 1991.

[58]Norman, 116.

[59]Ruth Cheney, LTC,AN, Issues, Challenges, and Food for Thought : Operations Desert Shield/Desert Storm, August 1990-April 1991. LTC Cheney was the Chief Nurse of the 44th Medical Brigade during this time.

[60]Ibid.

[61]Ibid.

[62]Desert Shield/Desert Storm After Action Report, 47th Combat Support Hospital, March 1991.

[63]Desert Shield/Desert Storm After Action Report, 86th Evacuation Hospital, "n.d."

BIBLIOGRAPHY

Bradley, Ruby, COL, AN. "An Oral History," Military History Institute, Carlisle, Pa.

Busley, Stanley W., Vietnam: The Heartland Remembers,Norman, Oklahoma: UPOK, 1987.

Carrier, Allen, and Larry Carney. "World War II POW Nurses Get 'Overdue' Honor." Army Times, 2 May 1983, 35.

Cheney, Ruth, LTC, AN. "Issues, Challenges, and Food for Thought." Paper reviewing events of Desert Shield/Desert Storm, Fort Bragg, 7 June 1991.

Collins, Joseph. "Desert Storms and the Lessons of Learning." Parameters, Vol XXII, no. 3 (Autumn 1992): 83-95.

Cowdrey, Albert E. The Medic's War. Washington: Center of Military History 1987.

Cox, Frank. "Angel of Bataan." Soldiers, September 1989, 45-48

Desert Shield/Desert Storm After Action Reports for Chief Nurse, 44th Medical Brigade. "n.p.", 1991-1992.

Freedman, Dan, and Jacqueline Rhoads, eds. Nurses in Vietnam: The Forgotten Veterans. Austin, TX: Texas Monthly Press, 1987.

Hays, Anna Mae, BG, AN. "An Oral History." Military History Institute. Carlisle, Pa.

Johnson, Doug, LTC. "Why 'Lessons' Aren't Learned." Memorandum for Department Chairman, U.S. Army War College, Carlisle, Pa., 10 May 1991.

Jump, Katherine. "An Oral History." Military History Institute. Carlisle, Pa.

Kielar, Eugenia. Thank You, Uncle Sam. Bryn Maur, Pa.: Dorrance & Co., 1987.

Lane, Larry. "Nurses in Combat Boots." Soldiers, May 1992, 33-36.

Marshall, Kathryn. Combat Zone: An Oral History of American Women in Vietnam. Boston: Little, Brown and Co., 1987.

Maurer, Harry. Strange Ground: Americans in Vietnam, 1945-1975: An Oral History. New York: Holt, 1989.

Minter, M. Louise, LTC., retired Army nurse with duty both in Korea and Vietnam. Interview by author, 3 February 1993, Carlisle, Pa.

Norman, Elizabeth. Women at War. Philadelphia: University of Pennsylvania Press, 1990.

Parks, Robert J. Medical Training in World War II. Washington: Department of the Army, Office of the Surgeon General, 1974.

Peto, Marjorie. Women Were Not Expected. West Englewood, N.J.: Author, 1947.

Phillips, Mary. "The Army Nurse Corps." In Unsung Heros. New York: Wise, 1949.

Richie, Sharon, COL, AN. "Combat Nurses: You Won't Be Alone." Military Review (January 1989): 65-73.

Smith, Winnie. American Daughter Gone to War. New York: Wm. Morrow and Co., 1992.

Taylor, Roberta Love. Combat Nurse: A Journal of World War II. Santa Barbara: Fithian, 1988.

Wandrey, June. Bedpan Commando. Elmore, Oh.: Elmore, 1989.